

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-4. (canceled)

5. (previously presented) A GaN light emitting diode, comprising:

a first conductive GaN clad layer which is a GaN crystalline layer doped with an n-type impurity;

a first contact formed on and in direct contact with an upper surface of the first conductive GaN clad layer;

an active layer formed on a lower surface of the first conductive GaN clad layer;

a second conductive GaN clad layer formed on a lower surface of the active layer, wherein the second conductive GaN clad layer is a GaN crystalline layer doped with a p-type impurity;

a conductive adhesive layer formed below the second conductive GaN clad layer;

a conductive substrate formed on a lower surface of the conductive adhesive layer; and

a second contact formed on a lower surface of said conductive substrate;

wherein the conductive adhesive layer is made of a material selected from the group consisting of Au-Sn, Sn, In, Au-Ag and Pb-Sn.

6-23. (canceled)

24. (previously presented) The GaN light emitting diode as set forth in claim 5, further comprising a reflective layer made of a conductive material and formed between the second

conductive GaN clad layer and the conductive adhesive layer.

25. (previously presented) The GaN light emitting diode as set forth in claim 24, wherein the reflective layer is made of a material selected from the group consisting of Au, Ni, Ag, Al and alloys thereof.

26. (previously presented) The GaN light emitting diode as set forth in claim 5, wherein the conductive substrate is made of a material selected from the group consisting of silicon (Si), germanium (Ge) and GaAs.

27. (new) The GaN light emitting diode as set forth in claim 5, wherein the active layer is in direct contact with the lower surface of the first conductive GaN clad layer.

28. (new) The GaN light emitting diode as set forth in claim 27, wherein
the conductive adhesive layer is in direct contact with a lower surface of said second
conductive GaN clad layer, and
the conductive substrate is in direct contact with the lower surface of the conductive
adhesive layer.

29. (new) The GaN light emitting diode as set forth in claim 28, wherein the second
contact is in direct contact with and covers the entire lower surface of said conductive substrate.

30. (new) The GaN light emitting diode as set forth in claim 5, wherein
the conductive adhesive layer is in direct contact with a lower surface of said second
conductive GaN clad layer, and
the conductive substrate is in direct contact with the lower surface of the conductive
adhesive layer.

31. (new) The GaN light emitting diode as set forth in claim 30, wherein the conductive adhesive layer is made of one selected from the group consisting of Sn and In.

32. (new) The GaN light emitting diode as set forth in claim 24, wherein the reflective layer is in direct contact with both the second conductive GaN clad layer and the conductive adhesive layer.

33. (new) The GaN light emitting diode as set forth in claim 32, wherein the active layer is in direct contact with the lower surface of the first conductive GaN clad layer.

34. (new) The GaN light emitting diode as set forth in claim 33, wherein the second contact is in direct contact with and covers the entire lower surface of said conductive substrate.

35. (new) The GaN light emitting diode as set forth in claim 24, further comprising an upper surface defined together by said first contact and said upper surface of the first conductive GaN clad layer;

a lower surface defined by a lower surface of said second contact; and
opposite side surfaces extending between and connecting said upper and lower surfaces of said diode;

wherein the reflective layer extends continuously without interruption from one of said side surfaces to the opposite one of side surfaces.

36. (new) The GaN light emitting diode as set forth in claim 35, wherein the reflective layer is in direct contact with both the second conductive GaN clad layer and the conductive adhesive layer.

37. (new) The GaN light emitting diode as set forth in claim 36, wherein the active layer is in direct contact with the lower surface of the first conductive GaN clad layer.

38. (new) The GaN light emitting diode as set forth in claim 37, wherein the second contact is in direct contact with and covers the entire lower surface of said conductive substrate.